



Rare Water Symposium 06/08/13

Region of Waterloo Water Efficiency Master Plan

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Background

- 1974 - Delivered first conservation programs
- 1998 – First Water Efficiency Master Plan – results exceeded goals
- 2006 – Master Plan Update Approved by Council
- 2007 – 2015 program implementation
- Now updating WEMP for 2015 - 2025

Benefits of Conservation

- Reduced non-fixed operating costs
- CO₂ reduction
- Helps defer infrastructure expansion
- Leak reduction captures lost revenue
- Helps maintain groundwater levels
- Reduce risks of low water during droughts
- Reduced flows to wastewater treatment

Elements of current Program

- Public Education and Marketing
- Outdoor Water Use Reduction
- Efficient Toilet Replacements
- Commercial, Industrial and Institutional (CII) Efficiencies
- Municipal Leak Reduction
- Research and Development

Goals of Public Education

- *Promote intrinsic value of water as resource*
- Educate about conserving behaviours
- *Trigger actions that result in measurable water savings*

Outdoor Water Use Reduction



- Rainwater Harvesting
- Naturescaping Promo
- Water Conservation By-Law

Rain Barrel Distrib. 2007 - 2012

- 17,586 200L units
- 21,103 m³/season savings
- 2012 was final year

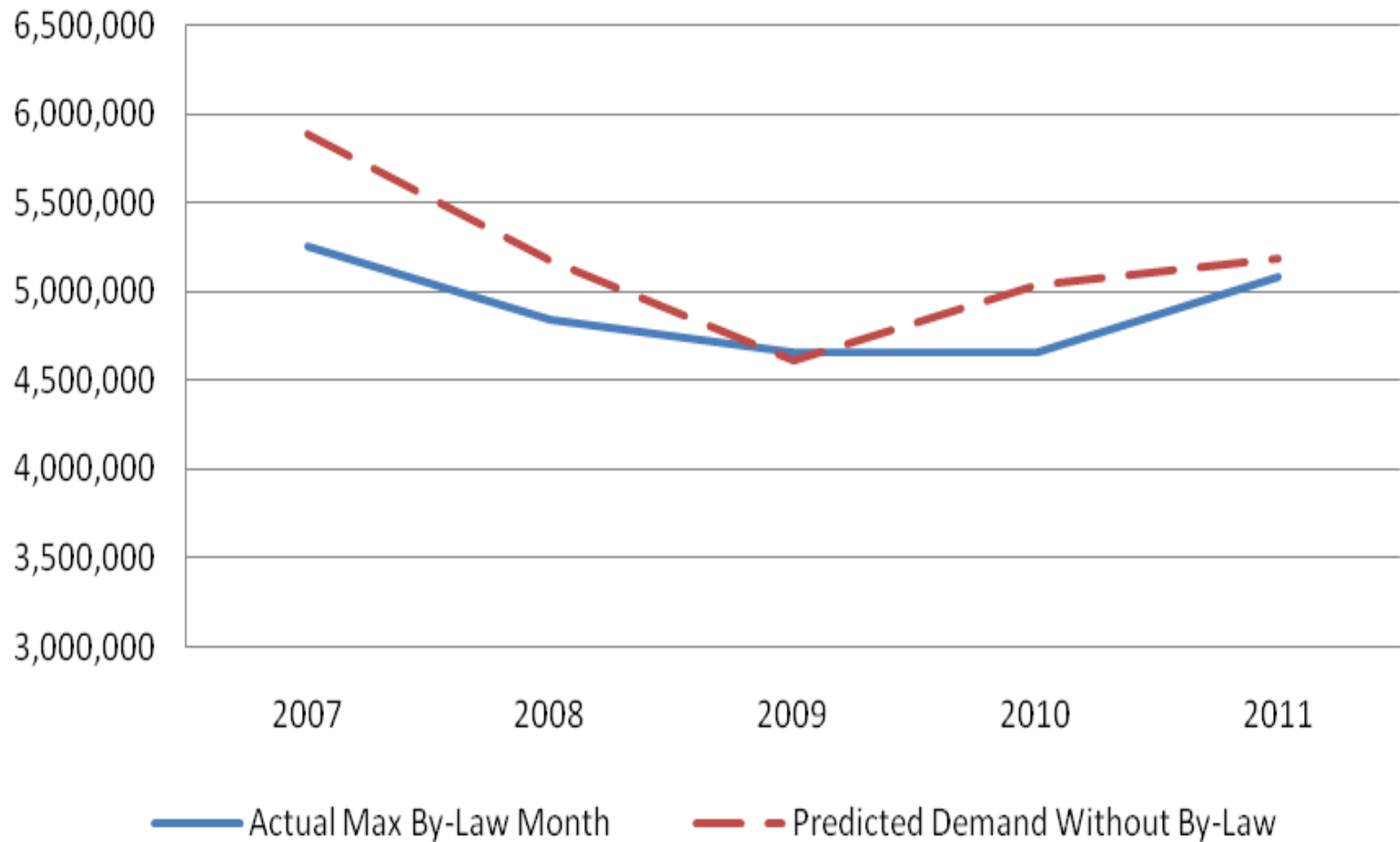
- 45,600 since '01



Water Conservation By-Law

- May 31 – September 30; since 2005
- Once-per-week lawn watering, "new normal"
- Other measures to reduce water wasting
- Goal to keep max. demands below 227 MIGD

Table 3 - m³ Tri-city Max By-Law Month Demand; Actual & Predicted



TRP Savings 2007 - 2012

- 31,715 toilet replacements
- Cumulative saving 5,271 m³/day
- Since 1984, 63,700
- Likely discontinue rebates by 2014

Commercial, Industrial, Institutional

- Relationships with businesses & Institutions
- Growth in participation & water savings
- Water Efficient Technology or "WET" funding program

Cumulative savings, 2007 - 2011

	m ³ /day
Aerators, showerheads	121.7
Commercial Front-Load Washers	20.9
Flush valve toilets only	8.6
Pre-Rinse Spray Valves	61.9
W.E.T. savings	384.3
Leak Repair	<u>588.3</u>
Total cumulative m ³ /day saving	1,240.7
CII & Leak Target m ³ /day	839.0

Research & Development

- **Water Softener Testing & Educ.**
- *watersoftenerfacts.ca*
- North American End Uses of Water
- Rainwater Harvesting
- Other technical studies



2012 Base WEMP Target/Actual

Program	Target m ³ /day	Actual
General Public Ed.	2,580	2,544
Toilet Replacement	3,107	5,271
CII	666	652
Leak Reduction	<u>173</u>	<u>588</u>
Total m ³ /day	6,526	9,055

2015 WEMP Target (already exceeded!) 8,146

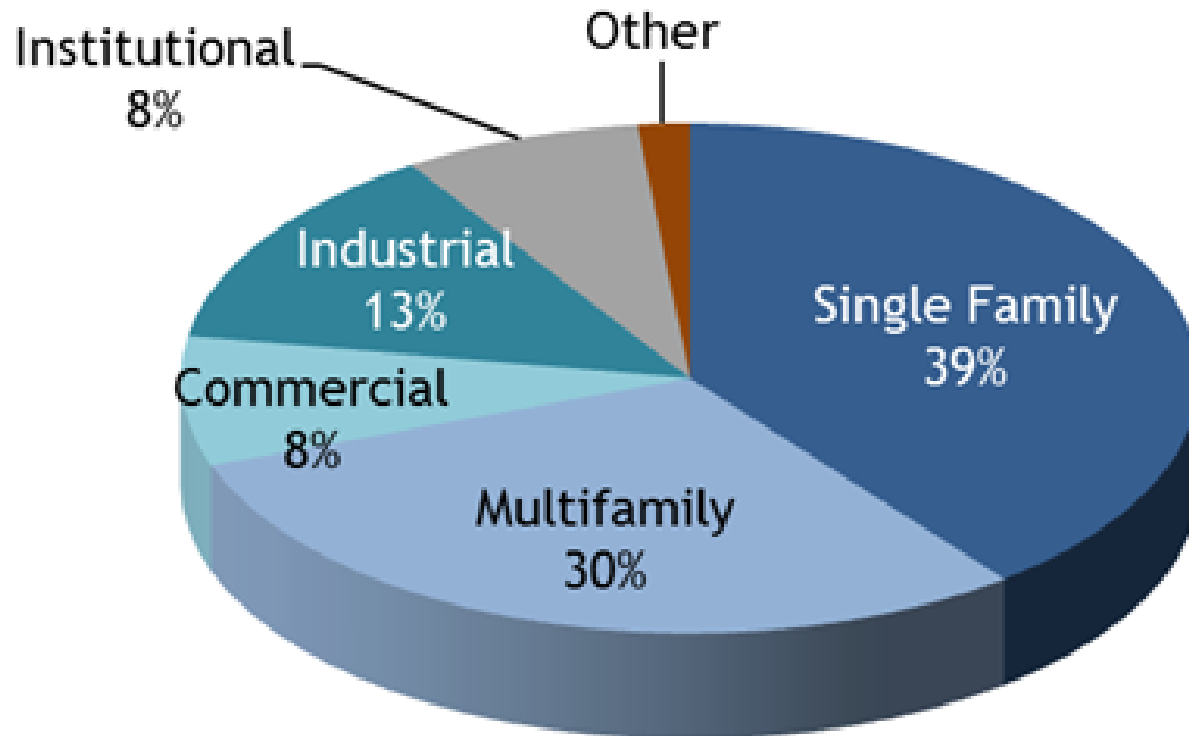
Water saved enough to supply 13,000 households

WEMP - How Low Can We Go?

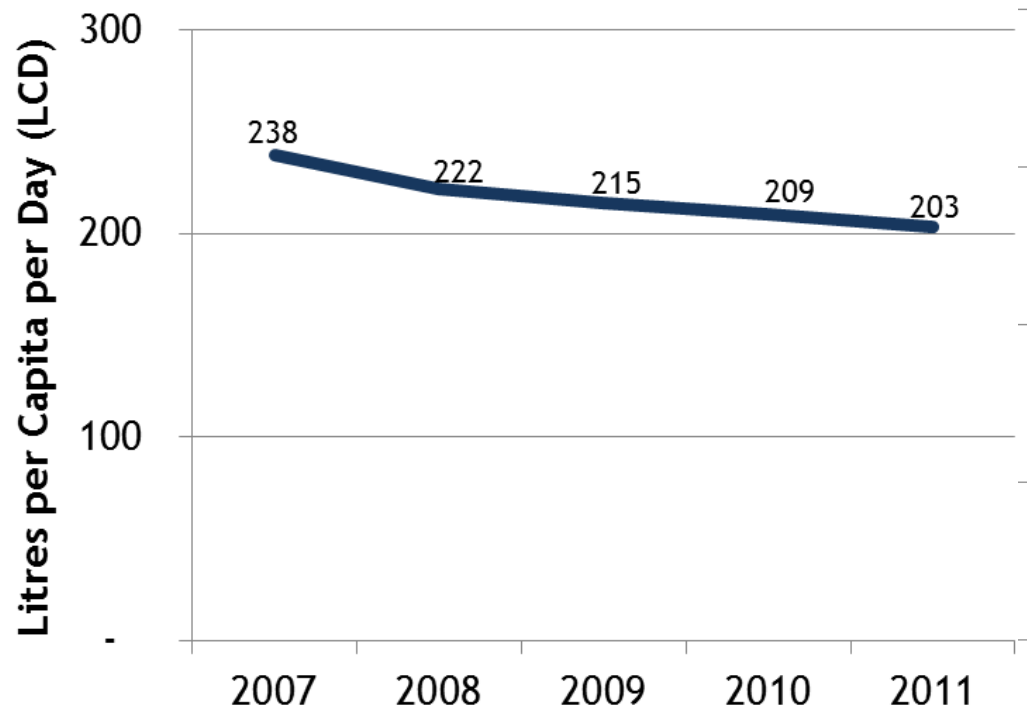


At What Cost?

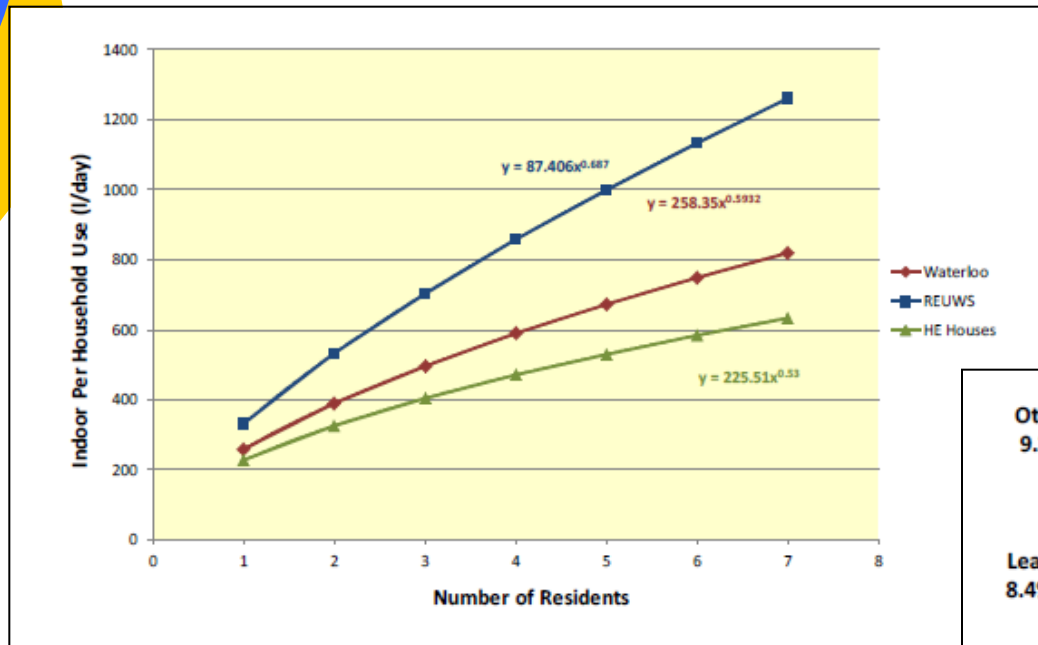
Water Demand by Sector



Region Per Capita Demand

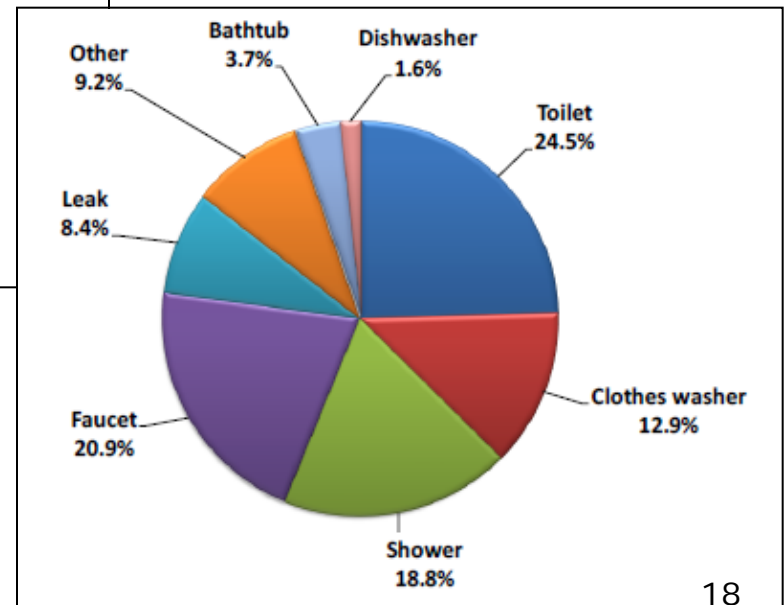


Residential End Use Study



Source: Aquacraft and NRC (2013)

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Potential New Programs

- Innovative metering measures
- Restaurants & car washes
- Cooling towers
- Targeting new development
- Home audits: leaks, softeners, hot water recirculation, flappers
- Rainwater Harvesting
- Plumber training/certification
- Enhanced Communication

Conclusions

- Keep much of what already doing
- Continued savings harder to get
- Possibly Lower returns - higher cost
- Must target high water users first

Water Efficiency Master Plan Update

Next Steps

- Review short listed options in June
- Draft WEMP Update by end of 2013
- Public Input, first quarter 2014
- Final WEMP approval June 2014
- Implementation begins 2015

Discussion

